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CSS 'ACADIA' 75 YEARS OF SERVICE

by P. BARR (*)

INTRODUCTION

1988 will mark the diamond anniversary, or 75th year of service, for the Canadian Scientific Ship *Acadia*. Commencing hydrographic service in 1914, she is now the oldest surveying hydrographic ship in the world originally built for that task. She is also the oldest Canadian vessel afloat with naval service.

Most of *Acadia*'s career was spent with the Canadian Hydrographic Service compiling marine charts of Canada's Atlantic Seaboard and Hudson Bay. During both world wars, *Acadia* was removed from her hydrographic work to serve in various wartime roles with the Royal Canadian Navy.

Through the dedicated efforts of a few people who realized the significance of *Acadia*'s historical accomplishments, she was spared the seemingly inevitable end at the breakers after being paid off in 1969. In 1981, *Acadia* was moved to a final resting place at the Maritime Museum of the Atlantic, Halifax, Nova Scotia. Here began the restoration to her 1969 configuration.

THE SHIP

Often referred to by those who knew her as the 'Grand Old Lady of the Canadian Hydrographic Service', she was a familiar sight off the eastern Canadian Seaboard along with other famous local vessels, long since disappeared.

Acadia is a steel, single-screw vessel of approximately 55.5 metres in overall length and 10 metres beam. At a displacement of 1,700 tons (registered gross tonnage 846 tons), she has an average depth of 3 metres. Her original speed was nearly 14 knots (under excellent conditions) though by the late 1960's this had been reduced to approximately 9 knots.

(*) 2566 MacDonald Street, Halifax, Nova Scotia B3L 3G5, Canada.

Designed and built for operation in northern Canadian waters, *Acadia* has a 7/8" steel plating and heavier than normal framing. Apparently, shortly after arrival in Canada, she was further ice strengthened.

Of a non wartime complement of sixty, ten were deemed to be hydrographic, although this figure fluctuated depending on the tasks to be carried out.

The following are various specifications relevant to the ship as it existed in 1914.

Complement

Captain	1
Officers (including wireless operator)	4
Engineers	3
Petty Officers (carpenter, bosun), 2 boat cox'ns, 2 quarter masters, 3 boys	11
1 steward, 1 cook, 2 assistants	4
Seamen	20
Firemen	8
	51 Total

Hydrographic Personnel	**Cabins**	**Total**
First Class	10	12
Second Class	Spare room	3
		15

Total Hydrographic Personnel and Crew..... 66

Engines

Builders: Swan Hunter & Wigham Richardson Ltd.
Type: Triple Expansion
Trial Trip: Average Revs. 171.5
Indicated Horse Power: 1715
Speed: 12.6 knots

Boilers

Builders: Swan Hunter & Wigham Richardson Ltd., Howdons Forced Draft
Type: Multiple Cylinder.

Boats

Gasoline launches	2		
Cutters	2		
		Number of persons carried	66

Registered

Port of Registry — Newcastle, England
Registry No. — 133535

Several alterations to the ship have been necessary over the years, the most noticeable being the complete enclosure of the wheelhouse. There was also a complete decking renewal in 1951 and a partial renewal again in 1985 as part of the ship's restoration program. The vessel's masts, which had been fitted for sails, were subsequently fitted for lighting and radar equipment. The two survey launches and cutters were also replaced by four modern survey launches.

NAVIGATION EQUIPMENT

For her time, CSS *Acadia* was equipped with the most modern hydrographic devices and utilized survey techniques that were considered of equal standard with the operations of the various hydrographic survey institutions throughout the world.

As a new ship in 1913, she was the first vessel of the Canadian Hydrographic Service to carry wireless. Initially, using leadline and astronomic methods of position fixing with sextant, where applicable, these methods were complemented throughout the next 57 years by many successful and unsuccessful additional survey devices.

In 1919, she was used to test radio-direction finding equipment which eventually proved impractical for hydrographic purposes and was discarded.

In 1928, she was equipped with a standard Sperry gyro compass, with marked advantages over the old magnetic compass.

Perhaps one of the most modern additions in the earlier years was the acquisition of a 'sonic sounding device', the British Admiralty Pattern Echo Sounder, in late 1929. Capable of recording depths greater than 500 fathoms (915 metres), this early model was replaced in 1953 by a more modern magneto-striction type of sounder and since then by other types of automatic sounders. A C.A.E. type 268 Radar was installed in 1951.

During the last years of *Acadia*'s service, the line of sight microwave system Hydrodist was used to horizontally position the survey launches while working inshore areas.

During the restoration, a great deal of old survey equipment, everything from brass station pointers to a Doode Legge tidal prediction machine, were accumulated. At one time vital to survey operations, these pieces, for the most part, are now some of the few remainders of a disappearing era that is in some respects poorly documented.

Probably the only aspect of *Acadia*'s restoration that has been somewhat neglected is adequate documentation and display of the various hydrographic skills required to ultimately produce a marine chart prior to present day computer-assisted methods.

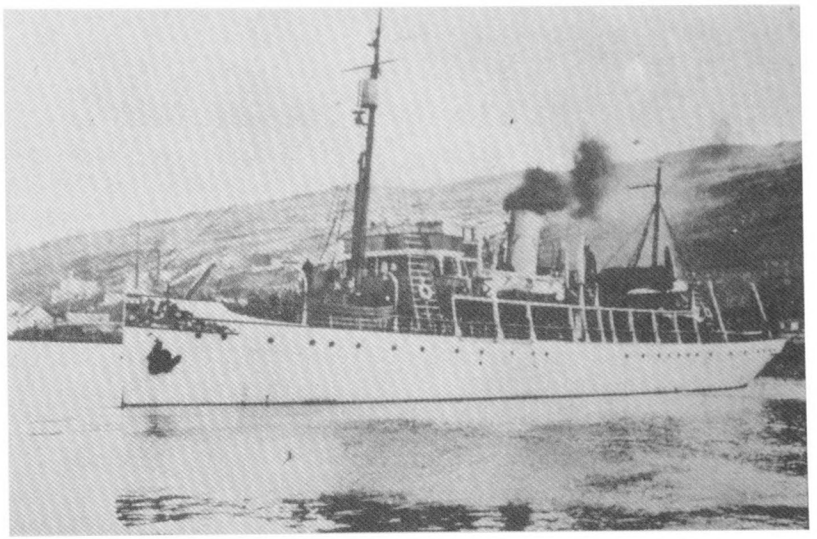

FIG. 1.— *Acadia* during period of working life 1913-1969 (Newfoundland).

Hydrographic and ship's logs may be a good starting point for this, though unfortunately to date many of these have not been located after their removal to Ottawa.

HISTORICAL ASPECTS

C.S.S. *Acadia* was designed by Ottawa Naval Architect, R.L. NEWMAN, and was launched on 8 May 1913 from the shipyards of Swan Hunter and Wigham Richardson Limited, Newcastle-on-Tyne, England. She arrived in Halifax on 8 July 1913 and received a great deal of admiration for her stylish appearance. One notable aspect of *Acadia*'s appearance at this time were a set of extremely ornate bow carvings that, during the 1950's, were put into storage at a local shipyard. Unfortunately, they were completely destroyed by fire although the museum has retained a large collection of photographs of the carvings.

On arrival, *Acadia* was immediately prepared for long term survey work. She spent her first two seasons, 1913 and 1914, charting areas off the west coast of Hudson Bay, particularly in the vicinity of Port Nelson. During these operational periods, the vessel encountered extremely severe ice conditions and, in one encounter with ice, she suffered damage and required repair. Typically, the charting programme was completed before returning home.

Acadia also spent three seasons, 1929, 1930 and 1931, surveying the Hudson Bay Route with emphasis on the Port of Churchill. The first vessel to transport grain from Hudson's Bay in 1931 relied on charts compiled from the

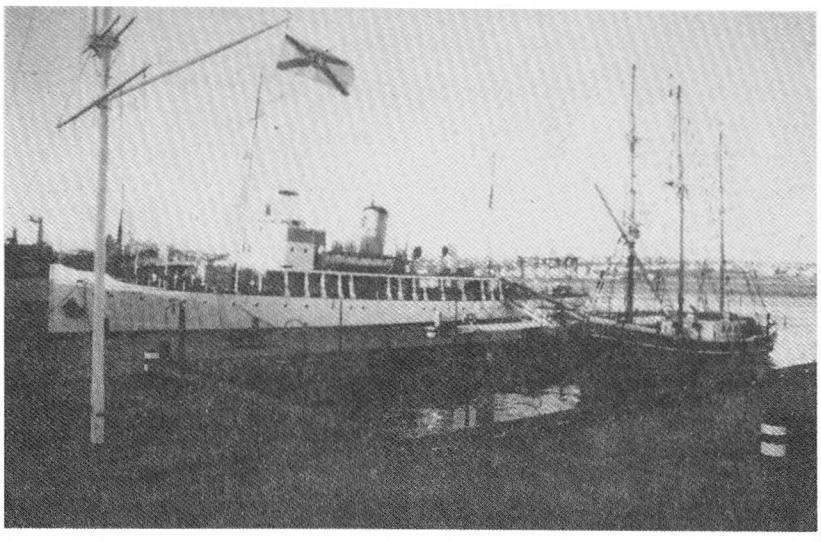

FIG. 2.— *Acadia* alongside the Maritime Museum of the Atlantic, Halifax, 1986.

work of *Acadia*.

Nova Scotia

Acadia was engaged in charting the province's east and west coasts in 1915 and 1916 and between the seasons 1919-1923. In 1923, she completed a tidal current investigation in the Bay of Fundy. During 1946 she carried out surveys in Northumberland Strait and periodically revisited the area.

Gulf of St. Lawrence

The Gulf of St. Lawrence was extensively surveyed by *Acadia*, where she first commenced work in 1926. She charted most of the many islands and passages in the Gulf and also carried out surveys up the Saguenay River.

Newfoundland

Due to the entry of Newfoundland into Confederation in 1949, hundreds of miles of rugged coastline were added to the already immense charting task of the Canadian Hydrographic Service. Initially *Acadia* charted much of the west coast in 1939 and 1948, and the east and northeast coasts periodically from later 1948 to 1969. In 1950 and 1951, she charted Battle Harbour and, in 1952, worked in the vicinity of Lake Melville.

Mercy Missions

As with many vessels, particularly hydrographic, that carry out work for

extended periods in remote areas, the potential for involvement in search and rescue is always present. *Acadia* performed many notable mercy missions while working for 57 years in Canadian waters.

Probably her most well known rescue mission was the evacuation of some 600 people in 1961 from areas threatened by extensive forest fires along Newfoundland's east coast. Over a four day period, all the evacuees were landed in safety without injury.

War Service

In wartime, *Acadia* was put to work as a submarine patrol vessel from 1916 to 1919 and as a training vessel from 1939 to 1945, returning each time to civilian charting duties.

During war service in 1917, a 12 pound deck gun was mounted on the forecastle. After a test firing that nearly destroyed the gun and everything in the immediate vicinity, it was decided to leave it alone relying on its 'scare' value if nothing else.

The Past and Present

Since *Acadia*'s retirement, the hydrographic surveying profession has seen a great deal of change. As the 21st century approaches, the future of government and, particularly, commercially defined hydrography is somewhat unclear.

It is the professional and ethical history of hydrographic personnel serving on vessels such as *Acadia* that will eventually provide the foundations for building an internationally cohesive profession able to adapt to the challenges and often transient nature of the computer age in which we live.

After working under the constraints of budget and distant bureaucracy (something *Acadia*'s personnel were no doubt used to during her working life), the vessel's restoration is now complete and the never ending task of preserving her has just begun. Built originally for a service life of 50 years, she is a fitting tribute to her builders and various caretakers over the years.

Once again *Acadia* is a focus of admiration on the Halifax Waterfront, evidently as she once was, on a July summer's day 1913 — 75 years past.

Acknowledgements

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References

History of the Acadia, W.J. CALVER, P.S. HARDY, Bedford Institute of Oceanography, September 1972.

Acadia, Queens Printer, Ottawa, 1964.